DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	MASON POND	Lake Area (ha):	5.87
Town:	ORFORD	Maximum depth (m):	2.9
County:	Grafton	Mean depth (m):	1.6
River Basin:	Connecticut	Volume (m^3):	94000
Latitude:	43°51'34" N	Relative depth:	1.1
Longitude:	72°03'59" W	Shore configuration:	1.16
Elevation (ft):	1315	Areal water load (m/yr):	21.96
Shore length (m):	1000	Flushing rate (yr^{-1}):	13.70
Watershed area (ha):	202.4	P retention coeff.:	0.47
% watershed ponded:	0.0	Lake type:	natural

BIOLOGICAL:		26 February 1997	29 July 1996
DOM. PHYTOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	MERISMOPEDIA 35%
	#2		MOUGEOTIA 30%
	#3		CHRYSOSPHAERELLA 8%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			1.11
DOM. ZOOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	CALANOID COPEPOD 63%
	#2		NAUPLIUS LARVA 18%
	#3		
ROTIFERS/LITER		6	21
MICROCRUSTACEA/LITER		12	166
ZOOPLANKTON ABUNDANCE (#/L)		18	191
VASCULAR PLANT ABUNDANCE			Common/Abun
SECCHI DISK TRANSPARENCY (m)			2.8 Visible on bottom
BOTTOM DISSOLVED OXYGEN (mg/L)		0.0	8.2
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None
Hypolimnion volume (m^3) : None
Anoxic volume (m^3) : None

CHEMICAL:

Lake: MASON POND
Town: ORFORD

	26 February 1997		29 July 1996		
DEPTH (m)	2.0		1.0		2.0
pH (units)	5.7		5.9		5.8
A.N.C. (Alkalinity)	4.6		1.9		1.7
NITRATE NITROGEN	< 0.05		< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.21		0.13		0.13
TOTAL PHOSPHORUS	0.010		0.011		0.011
CONDUCTIVITY (μmhos/cm)	25.9		19.8		19.8
APPARENT COLOR (cpu)	12		55		55
MAGNESIUM			0.28		
CALCIUM			1.7		
SODIUM			< 1.0		
POTASSIUM			< 0.40		
CHLORIDE	< 2		< 2		< 2
SULFATE	5		4		4
TN : TP	21		12		12
CALCITE SATURATION INDEX			4.9		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1996

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	4	0	6	Meso.

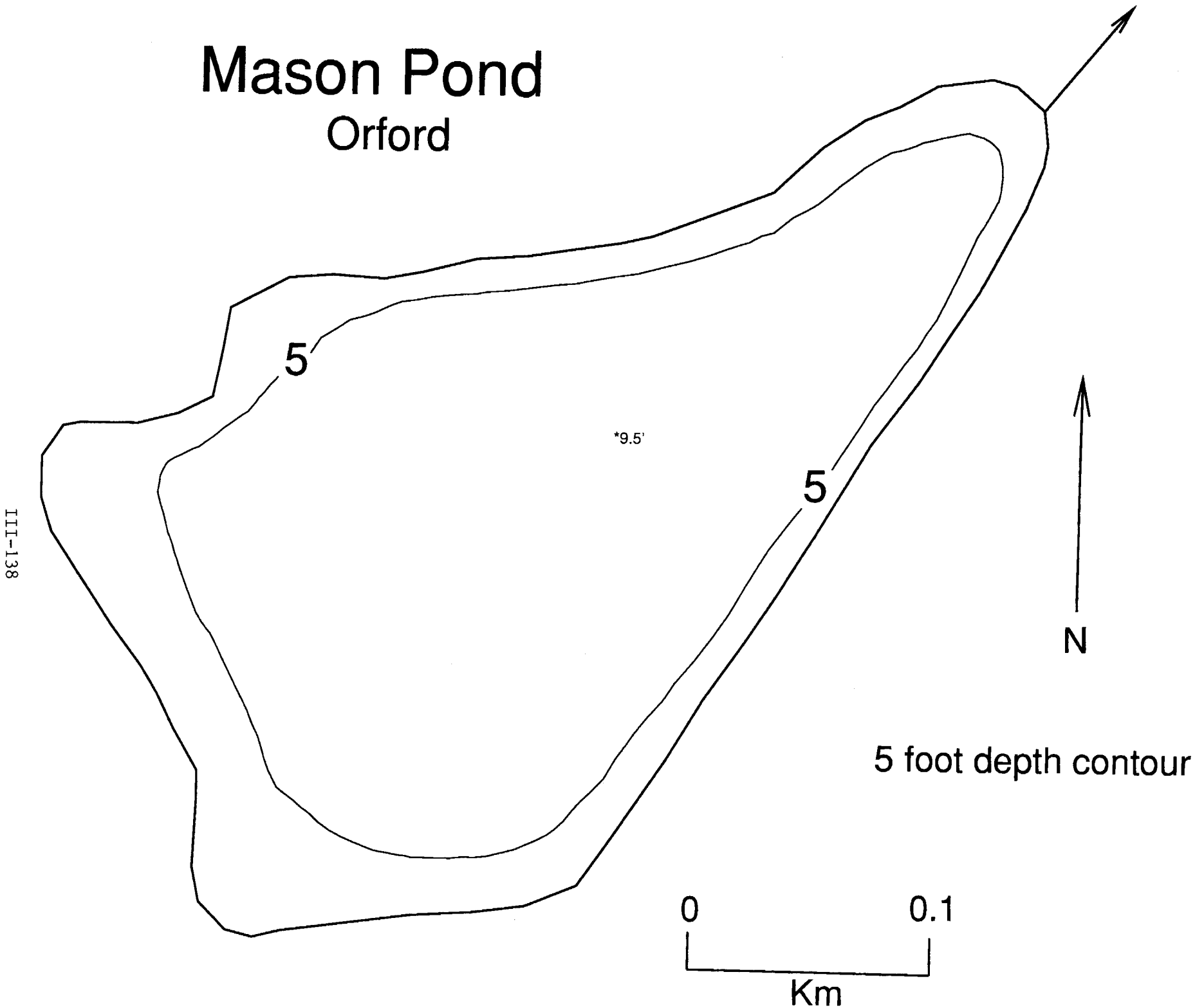
COMMENTS:

1. This somewhat remote pond, accessible by an unimproved road, sits in a bowl facing northeast, surrounded by Bundy, Stonehouse and Mousley Mountains. It was sampled jointly with the NH Fish and Game Department.

2. Mason Pond is a moderately acidic, tea-colored pond with low cation values and little buffering capacity.

3. The dissolved oxygen was completely depleted in the bottom waters under the ice, but was close to fully saturated during the summer under thermally unstratified conditions.

4. Plant growth in this shallow pond was the main cause for the mesotrophic rating; nutrient and planktonic algal levels were relatively low.


Mason Pond
Orford
5
5
*9.5'
N
5 foot depth contour
0
0.1
Km

FIELD DATA SHEET

LAKE: MASON POND TOWN: ORFORD
DATE: 07/29/96 WEATHER: SUNNY, WARM

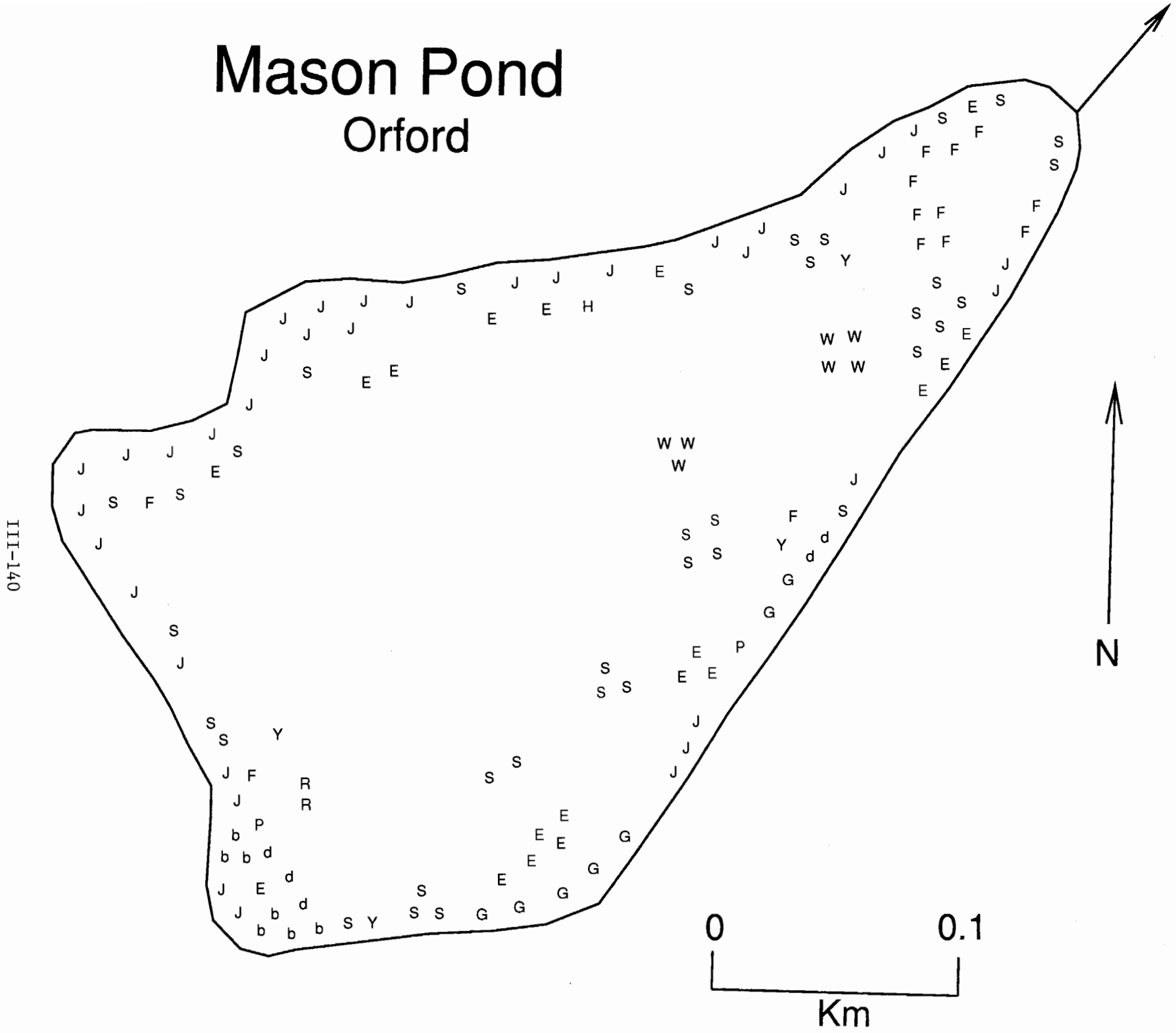
	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	22.5	8.5	96 %
	1.0	21.8	8.5	94 %
	2.0	21.2	8.3	92 %
	2.5	21.2	8.3	92 %

SECCHI DISK (m): 2.8 VOB COMMENTS:
BOTTOM DEPTH (m): 2.8
TIME: 1100

*Dissolved oxygen values are in mg/L

Mason Pond

Orford



AQUATIC PLANT SURVEY

LAKE: MASON POND TOWN: ORFORD DATE: 07/29/96

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
S	Sparganium	Bur reed	Common
E	Eriocaulon septangulare	Pipewort	Scattered
d	Dulichium arundinaceum	Three-way sedge	Scattered
F	Nymphoides cordatum	Floating heart	Scattered
J	Juncus	Rush	Common
Y	Nuphar	Yellow water lily	Scattered
b	Scirpus	Bulrush	Scattered
G	Gramineae	Grass family	Scattered
W	Potamogeton	Pondweed	Scattered
P	Pontederia cordata	Pickerelweed	Scattered
R	Potamogeton robbinsii	Robbins pondweed	Scattered

OVERALL ABUNDANCE: Common/Abun

GENERAL OBSERVATIONS:

1. Sterile thread-like bottom growth was also observed and filamentous algae was over most of the bottom.

2. *Decodon* was scattered along the shore under water, probably because of an apparently raised water level.